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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,988

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EXAMINER

SMITH, MATTHEW J

ART UNIT

PAPER NUMBER

3635

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/591,988

Applicant(s)

KATSUKI, AKIO

Examiner

Matthew J. Smith

Art Unit

3635

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 4c – 32, 33; Fig. 20(a), Fig. 20(b) - 77.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Helderman (4250681).

Helderman discloses an anchor bolt 10 installed in a fixing surface 18, comprising: a main portion 11 extending in a first direction and having a distal end and an end portion 12 extending from the distal end portion of the main portion in an inclined state relative to the first direction.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helderman (4250681).

Helderman discloses a method of installing an anchor bolt 10 in a fixing surface 18, comprising the steps of: drilling a first fixing hole for fixing the anchor bolt in the fixing surface, Fig. 3; drilling a second fixing hole from a distal end portion of the first fixing hole in an inclined state, Fig. 4; and fixing an anchor bolt bent at a portion to the first fixing hole and the second fixing hole, Fig. 7 but not bent at a middle portion.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to bend the Helderman anchor bolt in the middle or anywhere along the length since the structure and function of the Helderman anchor bolt would have been the same.

Claims 2, 5, 6, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halderman in view of Arbegast et al. (5120175).

Helderman discloses a method of installing an anchor bolt 10 in a fixing surface 18 comprising the steps of: drilling a first fixing hole for fixing the anchor bolt in the fixing surface, Fig. 3; drilling a second fixing hole from a distal end portion of the first fixing hole in an inclined state, Fig. 4; fixing an anchor bolt to the first fixing hole and the second fixing holes, Fig 7; but not drilling a plurality of second fixing holes, branched portions at a middle portion, or the plurality of the branched portions of the anchor bolt is formed of a shape-memory alloy so that a distal end portion of the anchor bolt can open and close according to a temperature change.

Arbegast et al. present a fastener in an inaccessible hole having branched portions formed of a shape-memory alloy so that a distal end portion of the anchor bolt can open and close according to a temperature change.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a shape memory alloy fastener, as presented by Arbegast et al., as the Helderman anchor bolt in order to fix an anchor bolt in an inaccessible hole.

It would have been further obvious to drill more than one second fixing hole since the Helderaman tool would have permitted additional holes to be drilled.

Claims 3, 7, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helderaman in view of Zublin (2500267).

Helderaman disclose the invention substantially as claimed including the first fixing hole is drilled with a first drilling bit detachably attached to a distal end of a first drilling tool, Fig. 3; a second fixing hole is drilled with a drilling bit detachably attached to a distal end of the drilling tool; the first fixing hole is drilled with a first drilling bit detachably attached to a distal end of a first drilling tool; the second fixing holes are drilled with a drilling bit detachably attached to a distal end of the drilling tool; but not a second drilling bit detachably attached to a distal end of the second drilling tool or a guide bush.

Zublin shows a drilling bit at the distal end of a drilling tool creating a first substantially vertical hole and having a guide bush 30; the drilling tool inserted through a guide hole 31 formed in the guide bush in an inclined state, Fig. 2; and a second fixing hole is drilled with a drilling bit detachably attached to a distal end of the drilling tool.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a guide bush in the substantially vertical hole to drill an inclined hole, as shown by Zublin, in order to hold the Helderaman bit in the desired orientation.

It would have been further obvious to use more than one drilling tool and more than one drilling bit since the number and type of drilling tools and bits would create the same holes disclosed in Helderman.

Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helderman in view of Hill, III et al. (20020011356).

Helderman discloses the invention substantially as claimed but not at least one of the plurality of the second fixing holes is drilled to penetrate through an existing reinforcing member installed inside the fixing surface.

Hill, III et al. discuss structure to drill through steel reinforcing rods [0024].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to anchor the Helderman bolt in an existing reinforcing member since Hill, III et al. discuss the tool, and thus the intent, to drill through an existing reinforcing member and, noting this intent, the anchoring would have been the same.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helderman in view of Obermeier et al. (5069584).

Helderman discloses the invention substantially as claimed but not the second drilling bit includes a guide portion and a grinding stone on an outer circumference surface, the guide portion having a height same as that of the grinding stone.

Obermeier et al. describe a drilling tool having a guide portion 3 and a grinding stone 2 on an outer circumference surface.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a drilling tool with a guide portion and grinding stones, as described by Obermeier et al., in order to create the Helderman borehole.

It would have been an obvious design choice to have the guide portion with a height the same as the grinding stone since the dimensions of the guide portion are not critical to the hole size.

Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helderman in view of Spies (4798501).

Helderman discloses the invention substantially as claimed but not the end portion includes a plurality of column bars bundled at both ends or the first branch portion has a first diameter and the second branch has a second diameter different from the first diameter.

Spies depicts an anchor bolt having an end portion including bundled column bars 4 and a first branch portion has a first diameter and another branch has a second diameter different from the first diameter (col. 5, lines 15-17).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use bundled bars or different diameter branches as the Helderman anchor bolt, as depicted by Spies, in order to provide a better fit.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helderman in view of Cohn (2755932).



Helderman discloses the invention substantially as claimed but not at least one of the first branch portion and the second branch portion is connected to the main portion through a joint.

Cohn illustrates an anchor bolt having two branch portions connected to a main portion through a joint 24.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to a jointed anchor bolt, as illustrated by Cohn, in order to angle the ends.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kellison (4586846) exhibits a method of drilling straight and inclined holes to install an anchor bolt 40.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Smith whose telephone number is (571) 272-7034. The examiner can normally be reached on T-Th, 8-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eileen Lillis/  
Supervisory Patent Examiner,  
Art Unit 3635

/M. J. S./  
Examiner, Art Unit 3635  
26 April 2011